



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/877,852	06/08/2001	Mark J. Kilgard	NVIDP035/P000321	1313

23419 7590 12/11/2003

COOLEY GODWARD, LLP
3000 EL CAMINO REAL
5 PALO ALTO SQUARE
PALO ALTO, CA 94306

EXAMINER

AMINI, JAVID A

ART UNIT	PAPER NUMBER
2672	19

DATE MAILED: 12/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/877,852

Applicant(s)

KILGARD ET AL.

Examiner

Javid A Amini

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 04, 2003 has been entered.

Drawings

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. See Fig. 1A of publication of US 6,198,488 B1, and also see Fig 1C of publication of US 2003/0103054 A1.

Remarks

Applicant argues on page 6, lines 12-19 of remarks: Regarding Fig. 1, the Examiner has requested that it be labeled as PRIOR ART. Also Applicant argues that Fig. 1, should not be labeled as PRIOR ART.

Examiner encourages Applicant to see Fig. 1A of publication of US 6,198,488 B1, and also Fig 1C of publication of US 2003/0103054 A1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 37-44 rejected under 35 U.S.C. 102(e) as being anticipated by Montrym et al.
(hereinafter referred as Montrym).

1. Claims 37 and 44.

As to claims 37 and 44, Montrym discloses a graphics pipeline system for graphics processing, comprising: the buffers of the first and second set are each assigned a unique identifier upon initially receiving vertex data (see Fig. 25 illustrates the slots of memory 2550). This unique identifier allows for associating an identifier defined by a programmed. Further, Montrym in Fig. 4B illustrates a manner in which the method of Fig. 4A is carried out. As shown, each execution thread has an associated program counter 450 that is used to access instructions, or code segments, in instruction memory 452. Such instructions might then be used to operate a graphics-processing module such as an adder 456, a multiplier 454, and/or an inverse logic unit or register 459. Montrym in paragraph 0273 discloses that dispatching refers to determining a starting point of code segment execution based on a received parameter. Montrym in paragraph 0115 discloses that in operation 422, an instruction associated with a thread to be executed during a current cycle is retrieved using a corresponding program counter number. Thereafter, the instruction is executed on the graphics-processing module in operation 424.

Art Unit: 2672

2. Claim 38.

As to claims 38 and 39, Montrym discloses in paragraph 0087, that the invention includes a hardware implementation that at least partially employs Open Graphics Library (OpenGL.RTM.) and D3D.TM. transform and lighting pipelines.

3. Claim 40.

As to claim 40, Montrym discloses in paragraph 0086, a standardized programming interface that is provided for application developers to interface with the various hardware features set forth in the present description. Further, a method is thereby provided to expose the functionality of the hardware to application developers in a standardized way (a convention-defined vertex). Such standardized programming interface may provide a more unified and readily supportable way for making applications and hardware work together. One example of an interface with features similar to those set forth hereinabove includes Microsoft.RTM. Direct X.RTM..

4. Claim 41.

As to claim 41, Montrym discloses in paragraph 0298, each primitive has a total of nine or ten line equations depending on whether it takes the form of a triangle or a line, respectively.

Again, in the case of the triangle, such line equations include the three line equations, which define the triangle, the four line equations defining the bounding box, and the two line equations, which define the intersections of the plane in which the primitive resides, and near, and far planes. Further Montrym discloses in paragraph 0332, also shown in Fig. 32, a primitive is first received that is defined by a plurality of vertices. Each of such vertices includes a W-

Art Unit: 2672

value (identifier defined by an application programmable). Upon the receipt of the primitive, the set-up module serves to define lines that characterize the primitive based on the vertices.

5. Claim 42.

As to claim 42, Montrym discloses in paragraph 0086, a standardized programming interface that is provided for application developers to interface with the various hardware features set forth in the present description. Further, a method is thereby provided to expose the functionality of the hardware to application developers in a standardized way (a convention-defined vertex). Such standardized programming interface may provide a more unified and readily supportable way for making applications and hardware work together. One example of an interface with features similar to those set forth hereinabove includes Microsoft.RTM. Direct X.RTM..

Montrym discloses in paragraph 0087 the embodiment of the invention includes a hardware implementation that at least partially employs Open Graphics Library (OpenGL.RTM.) and D3D.TM. transform and lighting pipelines. OpenGL.RTM. is the computer industry's standard application program interface (API) for defining 2-D and 3-D graphic images. With OpenGL.RTM., an application can create the same effects in any operating system using any OpenGL.RTM.-adhering graphics adapter. OpenGL.RTM. specifies a set of commands or immediately executed functions. Each command directs a drawing action or causes special effects.

Montrym discloses in paragraph 0154, the memory 412 capable of storing code segments that each are adapted to carry out the process operations in accordance with the status of the modes. A sequencing module 1206 is coupled between memory 412 and a control vector module 1205

Art Unit: 2672

which is in turn coupled to buffer 1202 for identifying a plurality of addresses in memory 412 based on a control vector derived from mode bits 202. The sequencing module 1206 is further adapted for accessing the addresses in memory 412 for retrieving the code segments that might be used to operate transform module 52 to transfer data to an output buffer 1207.

6. Claim 43.

As to claim 43, Montrym discloses in paragraph 0154, the memory 412 capable of storing code segments that each are adapted to carry out the process operations in accordance with the status of the modes. A sequencing module 1206 is coupled between memory 412 and a control vector module 1205 which is in turn coupled to buffer 1202 for identifying a plurality of addresses in memory 412 based on a control vector derived from mode bits 202. The sequencing module 1206 is further adapted for accessing the addresses in memory 412 for retrieving the code segments that might be used to operate transform module 52 to transfer data to an output buffer 1207. Montrym discloses in paragraph 0298, each primitive has a total of nine or ten line equations depending on whether it takes the form of a triangle or a line, respectively.

Again, in the case of the triangle, such line equations include the three line equations, which define the triangle, the four line equations defining the bounding box, and the two line equations, which define the intersections of the plane in which the primitive resides, and near, and far planes. Further Montrym discloses in paragraph 0332, also shown in Fig. 32, a primitive is first received that is defined by a plurality of vertices. Each of such vertices includes a W-value (identifier defined by an application programmable). Upon the receipt of the primitive, the set-up module serves to define lines that characterize the primitive based on the vertices.

Art Unit: 2672

Montrym discloses a graphics pipeline system for graphics processing, comprising: the buffers of the first and second set are each assigned a unique identifier upon initially receiving vertex data (see Fig. 25 illustrates the slots of memory 2550). This unique identifier allows for associating an identifier defined by a programmed. Further, Montrym in Fig. 4B illustrates a manner in which the method of Fig. 4A is carried out. As shown, each execution thread has an associated program counter 450 that is used to access instructions, or code segments, in instruction memory 452. Such instructions might then be used to operate a graphics-processing module such as an adder 456, a multiplier 454, and/or an inverse logic unit or register 459. Montrym in paragraph 0273 discloses that dispatching refers to determining a starting point of code segment execution based on a received parameter. Montrym in paragraph 0115 discloses that in operation 422, an instruction associated with a thread to be executed during a current cycle is retrieved using a corresponding program counter number. Thereafter, the instruction is executed on the graphics-processing module in operation 424.

Conclusion

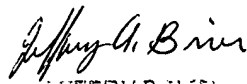
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javid A Amini whose telephone number is 703-605-4248. The examiner can normally be reached on 8-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 703-305-4713. The fax phone number for the organization where this application or proceeding is assigned is 703-746-8705.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

Javid A Amini
Examiner
Art Unit 2672

Javid Amini


JEFFERY BRIER
PRIMARY EXAMINER